



IN THE MATTER OF
KOREAN PATENT APPLICATION
UNDER SERIAL NO. 10-2002-0045057

I, THE UNDERSIGNED, HEREBY DECLARE :
THAT I AM CONVERSANT WITH BOTH THE KOREAN AND THE ENGLISH
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THE PARTICULARS OF WHICH ARE SET FORTH BELOW :

KOREAN PATENT APPLICATION UNDER

SERIAL NO.: 10-2002-0045057

FILED ON: July 30, 2002

IN THE NAME OF: LG ELECTRONICS INC.

FOR: CAMERA STRUCTURE OF A
MOBILE IMAGE TERMINAL

IN WITNESS WHEREOF, I SET MY HAND HERETO

THIS 23rd DAY OF FEBRUARY, 2007

BY

A handwritten signature in cursive script, appearing to read "Lee", written over a horizontal line.

LEE, Shin Sook



[Translation]

PATENT APPLICATION

To : Director General
The Patent Office

Date of Application : 2002. 07. 30

Classification for international patent : H04B 7/26

Title of the Invention : STRUCTURE OF CAMERA IN PORTABLE IMAGE
PHONE

Applicant : LG ELECTRONICS INC.
Code No. : 1-2002-012840-3

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This application is hereby filed pursuant to Article 42 of the Patent Law.

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[Fee]

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Fee for claiming a priority -	0 Case	0 WON
Fee for filing request for examination -	2 Claims	173,000 WON
Total -		202,000 WON

[Attached document]

1. Abstract, Specification (Drawing) -1 copy



[Translation]

ABSTRACT OF THE DISCLOSURE

[Abstract]

A camera structure of a mobile image terminal in which a cover is formed to be hinge-coupled by a hinge part formed at an upper portion of a main body so as to be opened and closed, and a camera module is mounted to allow video communication, wherein the camera module is mounted such that a direction in which a user looks at an LCD screen formed on the cover and a direction in which the camera module performs photographing are parallel when the cover is unfolded. Accordingly, the user can conveniently look at the LCD screen while photographing an object with the camera module.

[Representative drawing]

FIG. 2

[SPECIFICATION]

[Title of the Invention]

CAMERA STRUCTURE OF A MOBILE IMAGE TERMINAL

[Brief description of the Drawings]

FIG. 1 is a side view of a mobile image terminal according to the related art; and

FIG. 2 is a side view of a mobile image terminal having a camera structure according to the present invention.

**** Explanation for the major reference numerals ****

10 : main body	10b : rear surface
12 : hinge part	20 : cover
21 : LCD	140 : camera module

[Detailed description of the invention]

[Object of the invention]

[Field of the invention and background art]

The present invention relates to a camera structure of a mobile image terminal and, more particularly, to a camera structure of a mobile terminal capable of improving user convenience when a user performs photographing while looking at an LCD screen by enhancing a mounting structure of a camera module.

As the industry is highly developed, a mobile terminal, among various

convenience devices that provide convenience to users, is spreading at a high speed to allow users to simply carry it around to use anywhere. Recently, mobile terminals have been developed to provide a multimedia function in addition to the basic voice transmission and reception function, and a mobile image terminal having a color liquid crystal for displaying image information in various colors and a camera module for inputting image information is a good example.

According to whether the camera module is positioned, the mobile image terminal can be divided into a mobile terminal in which a camera module is mounted on a cover part hinge-coupled with a main body, a mobile terminal in which the camera module is mounted at a hinge part, and a mobile terminal in which the camera module is mounted on a main body part. The mobile terminal in which the camera module is mounted at the cover part has a problem that the camera module is interfered with an LCD formed on a cover and there is a spatial restriction such as a cover thickness, a mobile terminal in which the camera module is mounted at the hinge part has a problem that a hinge device and an FPC are interfered and because the camera module is rotated centering around a hinge shaft, using of the camera module for a long time would cause a damage, so in order to solve the problems, the camera module is mounted at the main body.

As shown in FIG. 1, the mobile image terminal includes a main body 10 formed by assembling upper and lower cases 1 and 2, a PCB (Printed Circuit Board) (not shown) mounted in an internal receiving space of the main body 10, a battery detachably mounted on the lower case 2, the rear surface, of the main body 10, and a cover 20 rotated to be opened and closed centering around the hinge part 12 mounted at an upper portion of the main body 10.

A button unit 30 for inputting information is formed on a front surface 10a of the main body exposed when the cover 20 is lifted to be opened, and a microphone 14 is mounted to transmit voice. On a front surface 20a of the cover 20, there are formed an LCD 21 for displaying a message and a symbol and a speaker 22 for receiving a voice and generating a ring back tone. A camera module 40 is mounted at an upper portion of the lower case 2 of the main body 10 and has a photographing direction perpendicular to a lengthwise direction of the main body 10.

With such a structure of the mobile terminal, when a user inputs a phone number to perform call communication, or when the user inputs various symbols for inputting a text message and information, the user can press buttons with a desired symbol printed thereon among a plurality of button units 30 to perform call communication by using the microphone 14 and the speaker 22. In addition, the user can transmit an image signal photographed by the camera module 40 to the other party with whom the user perform call communication to allow the other party to watch it.

However, in the related art mobile terminal, because a direction in which the user looks at the screen of the LCD 21 and a direction in which the camera module B performs photographing are not parallel to each other, a problem arises in that the user should look at the LCD 21 screen when capturing an image of an object by using the camera module 40.

[Problem to be solved by the invention]

Therefore, an object of the present invention is to provide a camera structure of a mobile image terminal capable of allowing a user to easily capture

an image while looking at an LCD screen by improving a mounting structure of the camera module.

[Construction of the invention]

To achieve these and other advantages and in accordance with the purpose of the present invention, as embodied and broadly described herein, there is provided a camera structure of a mobile image terminal in which a cover is formed to be hinge-coupled by a hinge part formed at an upper portion of a main body so as to be opened and closed, and a camera module is mounted to allow video communication, wherein the camera module is mounted such that a direction in which a user looks at an LCD screen formed on the cover and a direction in which the camera module performs photographing are parallel when the cover is unfolded.

The camera structure of the mobile image terminal according to the present invention will now be described with reference to the accompanying drawings. The same reference numerals are given to the same elements as those in the related art.

FIG. 2 is a side view of a mobile image terminal having a camera structure according to the present invention. As shown in FIG. 2, the mobile image terminal according to the present invention includes: a main body 10 formed by assembling upper and lower cases 1 and 2, a PCB (Printed Circuit Board) (not shown) mounted in an internal receiving space of the main body 10, a battery detachably mounted on the lower case 2, the rear surface, of the main body 10, and a cover 20 rotated to be opened and closed centering around the hinge part 12 mounted at an upper portion of the main body 10.

A button unit 30 for inputting information is formed on a front surface 10a of the main body exposed when the cover 20 is lifted to be opened, and a microphone 14 is mounted to transmit voice. On a front surface 20a of the cover 20, there are formed an LCD 21 for displaying a message and a symbol and a speaker 22 for receiving a voice and generating a ring back tone. A camera module 140 is mounted at an upper portion of the rear surface 10b of the main body 10 such that a direction (C) in which a user looks at the LCD 21 screen formed on the cover 20 and a photographing direction (D) are parallel. Namely, the camera module 140 is mounted such that an angle between the lengthwise direction of the main body 10 and the photographing direction (D) of the camera module 140 is the same as an angle at which the cover 20 is unfolded.

With such a structure of the mobile terminal, an image signal photographed by the camera module 140 is transmitted to the other party in communication to allow the other part can view it, and when the cover 20 is unfolded, the direction (C) in which the user looks at the LCD 21 screen and the photographing direction (D) of the camera module 140 are parallel, thereby solving the problem that the user can hardly look at the LCD 21 screen while photographing an object by using the camera module 140.

[Effect of the invention]

As so far described, the camera structure of the mobile image terminal has the advantage that when the cover of the mobile terminal that transmits and receives an image signal photographed by the camera module is unfolded, the direction in which the user looks at the LCD screen and the direction in which the camera module performs photographing are parallel, so the user can

conveniently looks at the LCD screen while photographing an object by using the camera module compared with the related art. In addition, it is convenient for the user to photograph an object with the camera module while looking at the LCD screen.

What is claimed is:

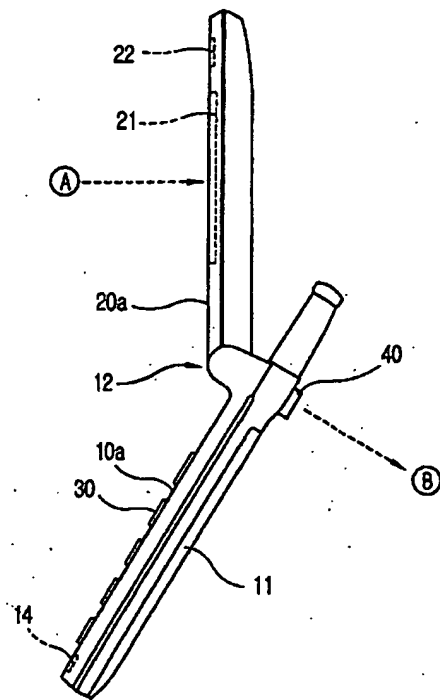
1. A camera structure of a mobile image terminal in which a cover is formed to be hinge-coupled by a hinge part formed at an upper portion of a main body so as to be opened and closed, and a camera module is mounted to allow video communication,

wherein the camera module is mounted such that a direction in which a user looks at an LCD screen formed on the cover and a direction in which the camera module performs photographing are parallel when the cover is unfolded.

2. The camera structure of claim 1, wherein the camera module is formed on an upper portion of a rear portion, namely, a rear surface of the front portion of the main body contacting when the cover is closed, and the camera module is mounted such that an angle between the lengthwise direction of the main body and the photographing direction of the camera module is the same as an angle at which the cover is unfolded.

[DRAWING]

[FIG. 1]



[FIG.2]

